

# **Research Needs Committee Report**

**Western Regional Cooperative Soil Survey  
Park City Utah 2006**

**Toby O'Geen, UC Davis**

# Agenda

- 1) Issues and logistics for the new multistate research project, *Benchmark soilscapes to predict the effects of climate change in the western US.*
- 2) Issues surrounding gypsiferous soils
- 3) Update on dynamic soil properties
- 4) Future needs for geochemistry in the West

# Multistate Project

- **Expect to find out if we are funded by the end of the summer**
- **Hold a meeting this winter where each participant presents potential sites**
- **Requests for field support should go to State Soil Scientists now.**

# **Multistate Project Criteria**

**Group agreed to emphasize selection of a catena or developmental sequence within each state and more flexibility in fitting into the regional bioclimatic sequence.**

**Each participant should select a minimum of three locations.**

**For NSSL support, must select regionally important soils (extent, economic significance, or research interest)**

**Collaborate with State Soil Scientist to establish new benchmark soils.**

# Multistate Project Considerations

**Important considerations for site selection:**

- existing research**
- existing monitoring infrastructure Snowtel or SCAN sites**
- possibility of linking with programs such as NEON or LTEMs**
- has the land use history been documented**
- MOU with land management agency to maintain sites for long term monitoring**

# Multistate Project Funding Opportunities

- Kearney foundation (UC System only)
- Conservation Security Program, Conservation Innovation Grants
- BLM has a variety of funding opportunities that will be distributed to participants
- Farm bill is evolving to emphasize ecosystem services of working landscapes rather than commodity based subsidies...excellent opportunities to link benchmark sites with this concept and explore new applications of soil survey in the economy

# Multistate Project Continued

- **Opportunities to use these sites as a platform to highlight other NCSS investigations e.g. geochemical inventories, dynamic soil properties, gypsiferous soils**

# Gypsum

**Issues surrounding gypsum in soils:**

- More terminology is needed to describe gypsum morphology**
- Need field methods to distinguish between gypsum and other soluble salt precipitates**
- Techniques to improve PSA**
- Investigations to relate gypsum morphology to landscape evolution are needed**

# Gypsum

**Formed a work group to conduct a needs assessment for the west.**

**Potential participants include:**

Chair: Brenda Buck UNLV  
Bob Graham UC Riverside  
Doug Merkler NCSS NV  
Cathy Mcguire NCSS Tucson  
Paul Rindfleish NRCS Colorado  
Craig Rasmussen U of A  
Harry Eswaran NCSS  
Kent Suttcliff NCSS Utah  
Curtis Monger NM State Univ.  
Toby O'Geen UC Davis

# **Dynamic Soil Properties Update**

## **1. Three pilot studies initiated, Utah, Idaho and Missouri**

- Utah: data collection and analysis completed  
some additional processing still needed**
- Missouri: sampled, data needs to be analyzed**
- Idaho: work planning initiated**

## **2. Will be a need for reviewers of the dynamic soil properties sampling manual**

## **3. Possibility of incorporating this with the multistate project**

# Priorities for Geochemical Investigations

- **Important for NCSS to avoid areas contaminated with trace and heavy metals**
- **Focus on natural areas relatively unaffected by practices that accumulate trace and heavy metals**
- **Focus efforts on benchmark landscapes, watershed studies and other high profile sites**